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Peq 15 tm

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The Advanced Target Pointer Illuminator Aiming Laser (ATPIAL), also known as the AN/PEQ-15, is a versatile aiming system available in standard and high power configurations. This device features co-aligned visible and infrared lasers that are ruggedized for use on small arms and crew-served weapons. The ATPIAL retains its zero point with accuracy of 0.5 MRAD, making it an advanced targeting solution for various military applications. The AN/PEQ-15 is a widely used aiming system employed by various military forces, law enforcement agencies, and civilians worldwide. Its primary function is to provide operators with visual references for where fired rounds will land. The US Military has adopted this system into their arsenal in multiple theaters of operation. Developed as an improvement over the PEQ-2, numerous upgrades and tests were conducted to enhance its durability and combat effectiveness. The AN/PEQ-15 boasts capabilities that include operating both visible and infrared lasers, making it suitable for use during daylight and low-light operations. One of the system's key advantages lies in its ability to utilize night vision technology, providing operators with a distinct edge over adversaries who may not employ similar tools. In the production of a replica HK416 rifle seen on SEAL Team Bravo, the AN/PEQ-15 played a pivotal role. The procurement of the PEQ-15 was facilitated by Tactical Waffles, an online retailer specializing in tactical gear and night vision equipment. Their extensive product offerings and competitive pricing make them an attractive option for those seeking high-end equipment. The ATPIAL is a state-of-the-art replacement for the AN/PEQ-2A, boasting significant improvements that enhance its functionality and usability. A key feature is the addition of a co-aligned visible laser diode, which allows users to operate without night vision devices, streamlining procedures with a zeroed IR laser pointer. This feature is particularly advantageous as it enables users to check their zero during the day using a simple boresight technique. The ATPIAL's design places the unit low on the rail and wraps around the Picatinny for a snag-resistant profile, utilizing a recessed rail-grabber mount. The controls are recessed on top of the housing, providing easy access even with gloves. Constructed from high-density/impact polymer, the unit is robust yet lightweight, ideal for long periods of carrying a rifle. The ATPIAL features a rear-facing battery compartment that allows users to remove the battery without taking off the unit, accompanied by a moulded-in lanyard loop. Windage and Elevation adjustments are made with tiny screws on top and sides of the unit, each producing a positive click. A tool is required for these adjustments, keeping them low-profile to avoid catching in the field. Accessories include a soft carry case, an operator's manual, a quick reference card, a 3V DL123A lithium battery, an illuminator diffuser, and aiming exit port cover among others. The unit comes with NSNs (National Stock Numbers) for black and tan variants. The PEQ-15 package includes several essential components. These parts, detailed in a separate section of this blog, consist of the Operator & Field Maintenance Manual, Quick Reference Guide, 2x retaining straps, 5x Pattern Generators, Remote Cable Switch, 4x tape fastener loops (velcro), and a 123A battery. The PEQ-15 itself is made from high-density/impact polymer, giving it a rugged yet lightweight design. It's designed for both hand-held and weapons-mounted use, fitting the Military and Law Enforcement requirements of being easy to use, highly effective, and simple in appearance. The exterior is low-profile when mounted, minimizing snag points. The following sections break down each face of the PEQ-15: 1. **Key Components:** - Serial number (stamped or marked uniquely identifying the item) - Laser radiation awareness stickers detailing lasers used and manufacturing date - Activation button for momentarily or continuous use - Battery insertion diagram for correct installation - Mode selector with safety features to prevent accidental activation 2. **Aim Neutral Density Cap:** Reduces IR laser visibility using a Night Vision device; completely removes visible red laser visibility. Held in place by fixing points on the top and bottom of the PEQ-15. 3. **Pattern Generators & Lens Cap Pins:** Located at the top and underneath the PEQ-15, these are fixing points for attaching Pattern Generators. 4. **Infrared & Visible Aim Lasers:** The infrared laser is only visible with a Night Vision device, providing a Point Of Aim (POA). The PEQ-15 is a versatile device that can be used for various purposes, including Night Vision POA and bore sighting the weapon system. It features co-aligned Infrared (IR) and Visible lasers, allowing users to adjust both simultaneously when boresighting using the visible laser. The device also comes equipped with an Illuminator Diffuser Lens Cap, which spreads illuminator energy over 180°, enabling the illumination of a small room. The IR illuminator is only visible through a Night Vision device and serves to illuminate targets at close or far distances. Users can adjust the beam spread by rotating the Focus Knob. The battery cap, made of metal, seals the 123A battery inside the PEQ-15 and features an O-ring that prevents moisture or particles from entering the battery compartment. A green LED status indicator lights up when any function is activated, providing a visual confirmation to the user. Additional features include a lanyard attachment for non-weapon-mounted use, remote jack for activation via pressure, and illuminator adjusters for azimuth and elevation changes. The device also comes with an integral rail grabber bracket that secures it to a MIL-STD-19 13 rail. Other notable features include QR code identification stickers with serial number, date of manufacture, and part number. Aim laser adjusters allow users to adjust the IR and Visible lasers for azimuth and elevation changes. Finally, the device weighs 212g with a battery or 196g without one. Additional components included in the PEQ-15 package are five pattern generators (PGs), including Circle, Cross, Square, Triangle, and T-bar, as well as a standard Aim Neutral Density Cap that does not contain a pattern. The PGs project different shapes onto the target/area and affect both IR and Visible lasers. The PEQ-15 has a unique setup, allowing for only one Point of Interest (PG) at a time. These PGs serve as command and control tools, helping squad leaders designate buildings for their units to approach or assign different PGs for training purposes, such as identification and target assignment. A notable feature is the slight rattle produced when the lenses are not fixed between the front and rear sections of the PG due to it being lightly shaken. In addition to its button on top, the PEQ-15 package includes a Remote Cable Switch (RCS) for activating the device from a distance. This can be achieved using a pressel switch mounted either horizontally on a rail or vertically on a foregrip. The RCS is securely plugged into the Remote Jack and then fixed in place with retaining straps or loop velcro. The Quick Reference Guide (QRG) serves as an aide memoire for operators, covering essential topics such as Non Ocular Hazard Distances, use of lasers and illuminators, operator and field maintenance manual, and more. This comprehensive guide is contained within an 80-page booklet, including the front and rear covers, providing all necessary information for the PEQ-15's operation, advantages, technical specifications, usage criteria, and effects. Installation of the CR123 battery at the rear involves unscrewing a screw battery cap. The collar on the PEQ-15 features an O-ring to provide a seal for the battery compartment. A diagram on top indicates the correct orientation for inserting the battery once the cap is removed and then screwed back on securely. The PEQ-15 operates in eight functional modes, which have been detailed in the accompanying table below. Changing mode involves moving the Mode Selector to the desired position, with specific High Power modes (AH, IH, DH) requiring the removal of a blue Safety Screw using a 3/32 Hex or 7/64 SAE allen key. The Illuminator functions in three modes: momentary, continuous, and pulse. Pulse Mode allows for an emitted pulse every second, two seconds, four seconds, or eight seconds, briefly illuminating a specific area intermittently. Designed for use across various operational environments, the PEQ-15 is rugged and can withstand extreme conditions such as atmospheric changes and damage. The PEQ-15 can function properly up to 124°F (51°C), but its laser might degrade at temperatures above 104°F (40°C). To protect against dust and sand, ensure the caps are securely fitted, which helps minimize damage to the lenses. For maritime use, the system is designed for immersion up to 6m for one hour, and it should be set to "Off Mode" during this time. To attach the PEQ-15 to a weapon, you'll need to utilize either the Integral Rail Grabber Bracket on its underside or the two velcro tape fasteners. This allows the device to fit onto a standard 1913-MIL-STD rail. Use a flathead screwdriver to remove the screw, place the PEQ-15 on the rail, and tighten the screw back up without overdoing it. The system was tested for its capabilities in various conditions, including visibility tests with lasers and illuminators at different distances using Pattern Generators. The Predominant Target Area (PTA) and Spill of the aiming reticle were measured, yielding results that were documented in text, images, and video footage. Interestingly, there's a difference between how the Visible and IR lasers perform. The Visible laser creates a distinct targeting shape with two parts: the PTA and the Spill. The IR laser, however, shows an increase in measurements related to the Spill, indicating its unique characteristics. Various Pattern Generators (PG) were supplied for experimentation.2nd row - visual representation of the PG output clarity.3rd row - Visible laser output using PG (filmed at dusk).4th row - IR laser (Low Power) output using PG (filmed at darkest hour with Gen2 NV).5th row - IR laser (High Power) output using PG (filmed at darkest hour with Gen2 NV).Still images were taken from 1080p video recorded on a GoPro Hero9 camera at 2m and 5m distances from a solid white paper background, with the laser aimed at the target. Below is a table breaking down visibility of lasers at various ranges, indicating whether they were clearly visible or not when used with/without Pattern Generators. For the 1m - 5m section, measurements in inches (height and width) were accurately recorded.P - Predominant Target Area (reticle) The IR illuminator serves to illuminate targets at close-to-far distances. Beam spread can be adjusted using the Focus Knob. 1st row - output of IR illuminator (Low Power)(filmed at darkest hour with Gen2 NV).2nd row - output of IR illuminator (High Power)(filmed at darkest hour with Gen2 NV).Still images were taken from footage recorded on a Samsung A20E camera at 25m distance against a woodland background. Below is a table breaking down the effectiveness of the illuminator at various ranges, denoting whether it was effective or not. For the 1m - 5m section, measurements in inches (height and width) were accurately recorded.The AN/PEQ-15 ATPIAL has become iconic outside military and law enforcement circles. The civilian version, ATPIAL-C, allows for lower power consumption while maintaining visible IR laser and illuminator benefits without the high cost. Combining it with Night Vision Devices (NVDs) significantly enhances tactical advantage, especially during sunset hours. Although the real steel version is expensive, I highly recommend researching, watching YouTube reviews, and speaking to actual owners before purchasing. If possible, test a reproduction model beforehand. However, be aware that these come in varying levels of functionality, ranging from simple battery storage boxes with no features to upgraded models featuring strong green lasers. I've got my hands on an IR laser and a high-powered white torch, along with some genuine AN/PEQ-15 replicas that are almost indistinguishable from the real deal. To get the best bang for your buck, you gotta put in the research and time. Trust me, I learned the hard way – it's easy to get duped without knowing what you're looking at. That said, my trusty HK416 is now equipped with this game-changing device, which will be a huge asset in both daytime and nighttime ops.